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## GENERAL SAFETY WARNINGS

*Warnings for the safety of users and objects.*

*Pay particular attention to the signs and their symbols*



**DANGER**  
Risk of electrical discharge.



**DANGER**

*The nonobservance of instructions may lead to risk of electrical discharge.*



**WARNING**

*The nonobservance of instructions may cause damage to user and/or third parties.*

**CAUTION:** before assembling, carefully read the contents of this manual. The nonobservance of the instructions will result in the annulment of the warranty.

## Chapter 1 – General information

**MINIVORT (P2 or PP2), SOMVORT and SOM** motor pumps are of centrifugal type with back or helical rotor (SOM). Either the regular or the temporary model can be used. During set-up, each motor pump is submitted to a test and is packaged with the greatest care. Upon delivery, check that the machine corresponds to the one indicated in the order, that it has not suffered any damage during transportation and that all the accessories are present. In the case of claims, contact immediately the retailer within eight days of purchase. Please ensure that the package is recycled in an environmentally friendly way.

## Chap.2 – Limits of use

**MINIVORT (P2 or PP2) and SOMVORT** motor pumps are suitable for the raising of dirty and grimy water containing solid suspended particles and filamentous material (SOMVORT). SOM motor pumps are instead suitable for the pumping of dense liquids or mud.



**WARNING**

*Motor pumps are not suitable for pumping inflammable or dangerous liquids.*



**WARNING**

*Avoid any dry-operating of the motor pump.*

Set	Model	Max. pumped liquid temperature	Max. depth of immersion	Max. dimension of pumped solid bodies	Minimum drying level	Weight Kg
SOM	2B	40 °C	7 m	25 mm	110 mm	54
	2A					55
	3					60
MINIVORT	P2 - 1	40 °C	7 m	52 mm	45 mm	27
	P2 - 1,5					27
	P2 - 2					28
	P4 - 1	40 °C	7 m	58 mm	72 mm	27
	PP2 - 1					30
	PP2 - 1,5					31
	PP2 - 2					33
SOMVORT		40 °C	7 m	75 mm	105 mm	56

## Chap.3 – ASSEMBLY



**DANGER**  
Risk of electrical discharge.

*All the assembly operations must be carried out with motor generator set disconnected from the power grid.*



**WARNING**

*Protect the motor pump and all tubes against frost and bad weather conditions.*

For any lifting or transportation operations, use the special handle. In regular installation cases with rigid tubes, the setting up of a check valve to avoid any liquid circulation while shutting off the motor pump is recommended. The setting up of a fast sectioning connection is recommended to provide easy maintenance and cleaning operations. The size of the pit should be such as to allow a minor number of startups per hour. In temporary installation cases, the use of flexible tubes connected to the pump

by means of a rubber bearer is recommended when possible. During the immersion of motor pumps, do not use the power supply cable, but a rope, or a steel wire cable or a chain, at the handle. **MINIVORT** can be delivered in automatic version, with an independent float circuit breaker directly connected to the switchboard.


**WARNING**

*Check that, at the minimum level, the float circuit breaker stops the motor pump.*


**WARNING**

*Check that, while oscillating, the float is not obstructed.*

## Chap.4 – ELECTRIC CONNECTION


**WARNING**

*Check that the voltage and frequency indicated on the data plate correspond to those of the available power grid.*


**DANGER**

*Risk of electrical discharge.*

*The technician must check that the power supply is provided with an efficient ground installation which conforms with the regulations in force.*


**DANGER**

*Risk of electrical discharge.*

*It is necessary to check that the power supply is equipped with differential circuit breaker with  $\Delta=30$  ma high sensitivity (DIN VDE 0100T739)*

The single-phase model of motor pumps are equipped with a condenser permanently inserted and a motor thermal-protective device incorporated in the automatic reinsertion winding; no other external protection is therefore required. In the three-phase models the protection must be assured by means of a magneto-thermal overload cutout or an electricity meter with thermal cutout, set at the rate current indicated on the data plate.

The electric motor of the motor pumps runs clockwise (side motor view). To verify if the sense is correct, it is necessary to control, upon starting up, the reactions of the motor pump. If the recoil of the motor pump is counterclockwise, the rotation of the motor is correct and vice versa, if the recoil is clockwise, it is necessary to exchange two of the three phases. We point out that the inverted sense of rotation does not guarantee the hydraulic performances indicated in the catalog.

## Chap.5 – MAINTENANCE AND TROUBLESHOOTING


**DANGER**

*Risk of electrical discharge.*

*Before performing any maintenance operations, shut off the motor pump voltage.*

In normal conditions, MINIVORT, SOM and SOMVORT motor pumps do not require maintenance. Hydraulic parts require only occasional cleaning.

PROBLEM	PROBABLE CAUSES	SOLUTIONS
<b>THE MOTOR PUMP DOES NOT TURN</b>	1) Absence of power supply 2) Intervention of the differential circuit breaker 3) Blocked rotor 4) Float out of order 5) Motor or condenser damaged	1) Check the presence of voltage in the power supply grid 2) Activate the circuit breaker again. If this trips again, contact a qualified electrician 3) Disassemble the hydraulic part and control if the rotor turns correctly 4) Control the operation by manually raising the float. In case of breakdown, change it. 5) Contact the retailer
<b>THE MOTOR TURNS, BUT THE MOTOR PUMP DOES NOT DELIVER WATER</b>	1) Level under the minimum aspiration level 2) Presence of air bubbles in the hydraulic casing 3) Aspiration filter or hydraulic part clogged 4) Delivery pipe clogged	1) Stop the pump 2) Force the air out by plunging again the inclined pump and shaking it when the delivery pipe is free. Control if the float works correctly 3) Clean the clogged part 4) Withdraw the tube and clean it
<b>THE MOTOR PUMP STOPS AFTER A SHORT PERIOD OF OPERATION BECAUSE OF INTERVENTION ON THE PART OF THE MOTOR THERMAL-PROTECTIVE DEVICE.</b>	1) Power plant not conforming with the data plate 2) Rotor blocked by a solid particle 3) Too hot liquid 4) Dry-operating	1) Check voltage along the power supply wires 2) Disassemble the motor pump and remove the cause of the blockage 3) Lower liquid temperature 4) Control the possible damage to the motor pump and eliminate the cause (in the versions with float check if this works correctly)